

Juhyeon Kim

juhyeon.kim.gr@dartmouth.edu | github.com/juhyeonkim95 | [personal website](#)

EDUCATION

Dartmouth College

PhD Program in Computer Science

Hanover, New Hampshire

Sep. 2022 – Current

Seoul National University

Master of Science in Electrical and Computer Engineering

Seoul, Korea

Sep. 2019 – Feb. 2022

Seoul National University

Bachelor of Science in Electrical and Computer Engineering (GPA 4.14/4.3, summa cum laude)

Seoul, Korea

Mar. 2014 – Aug. 2019

Seoul Science High School for Gifted Students

High school for talented students in science and mathematics

Seoul, Korea

Mar. 2011 – Feb. 2014

RESEARCH INTERESTS

- Physically-based rendering
- Real-time rendering
- Neural rendering

PUBLICATIONS

Juhyeon Kim, Jack Cui, Wojciech Jarosz, Adithya Pediredla, “Geometric Antithetic Sampling for Rendering Spatiotemporally Modulated Light” TBA, 2026

Juhyeon Kim, Wojciech Jarosz, Adithya Pediredla, “ToF ReSTIR: Time-of-Flight Rendering with Spatio-temporal Reservoir Resampling” SIGGRAPH (journal track), 2026

Juhyeon Kim, Wojciech Jarosz, Adithya Pediredla, “Difference-aware Filtering for Event Camera Simulation” EGSR (CGF track), 2026

Jack Cui, **Juhyeon Kim**, Wojciech Jarosz, Adithya Pediredla, “Light-Cone Shell Queries for Scalable Time-Gated Rendering” EGSR (CGF track), 2026

Juhyeon Kim, Craig Benko, Magnus Wrenninge, Ryusuke Villemin, Zeb Barber, Wojciech Jarosz, Adithya Pediredla, “A Monte Carlo Rendering Framework for Simulating Optical Heterodyne Detection” SIGGRAPH (journal track, honorable mention), 2025

Ruomai Yang, **Juhyeon Kim**, Adithya Pediredla, Wojciech Jarosz “A wave-optics BSDF for correlated scatterers” Computer Graphics Forum, Eurographics Symposium on Rendering (EGSR), 2025

Juhyeon Kim, Joshua Multhaup, Mahima Sneha, Adithya Pediredla, “Efficient Time Sampling Strategy for Transient Absorption Spectroscopy” ICCP, 2024

Juhyeon Kim, Wojciech Jarosz, Ioannis Gkioulekas, Adithya Pediredla, “Doppler Time-of-Flight Rendering” SIGGRAPH Asia (journal track), 2023

Changwoon Choi*, **Juhyeon Kim***, Young Min Kim, “IBL-NeRF: Image-Based Lighting Formulation of Neural Radiance Fields” Computer Graphics Forum, Proceedings of Pacific Graphics, 2023 (*: equal contribution)

Albert Reed, **Juhyeon Kim**, Thomas Blanford, Adithya Pediredla, Daniel C. Brown, Suren Jayasuriya, “Neural Volumetric Reconstruction for Coherent Synthetic Aperture Sonar” SIGGRAPH (journal track), 2023

Juhyeon Kim and Young Min Kim, “Fast and Lightweight Path Guiding Algorithm on GPU” Pacific Graphics Short Paper, 2021

Juhyeon Kim and Kihyun Kim, “Optimizing Large-Scale Fleet Management on a Road Network using Multi-Agent Deep Reinforcement Learning with Graph Neural Network” IEEE International Conference on Intelligent Transportation Systems (ITSC), 2021

Juhyeon Kim and Young Min Kim, “Novel View Synthesis With Skip Connections” IEEE International Conference on Image Processing (ICIP), 2020

EXPERIENCE

Summer Internship <i>Aurora Innovation</i> Conducted research and development on lidar volume scattering.	June. 2026 – Sep. 2026 <i>Mountain View, USA</i>
Summer Internship <i>Intel Graphics Lab</i> Conducted research on low-sample adaptive-sampling.	June. 2024 – Sep. 2024 <i>Seattle, USA</i>
Summer Internship <i>Pearl Abyss</i> Implemented real time path tracer using recent techniques such as ReSTIR and ReBLUR	June. 2022 – Aug. 2022 <i>Seoul, Korea</i>
Industry-academic Cooperation Project <i>Kohyoung Technology</i> - Developed photo-realistic circuit board rendering application for automated optical inspection (AOI) - Developing inter-reflection removal algorithm in phase shift profilometry	Mar. 2020 – June. 2022 <i>Seoul, Korea</i>
Undergraduate Research Intern <i>Kakao Mobility</i> - Developed efficient taxi dispatching algorithm using multi-agent deep reinforcement learning - After the internship, I personally further researched it and published the paper to ITSC	Jan. 2019 – Jul. 2019 <i>Pangyo, Korea</i>
Teaching Assistant <i>Seoul National University, Dartmouth College</i> 2024, Fall : Rendering Algorithm 2023, Winter : Computer Graphics 2023, Spring : Computer Vision 2020, Spring : Graphics Programming 2019, Fall : Machine learning and optimization for 3D data	

AWARDS AND HONORS

Neukom Research Prizes (2nd Prize) <i>Dartmouth College</i>	Hanover, US <i>Jun. 2025</i>
SNU Alumni Association President Award (for top honored graduate) <i>Seoul National University</i>	Seoul, Korea <i>Aug. 2019</i>
SNU Academic Festival for Undergraduate Students, best paper award <i>Seoul National University</i>	Seoul, Korea <i>Dec. 2017</i>
Presidential Science Scholarship (full tuition) <i>Korea Student Aid Foundation</i>	Seoul, Korea <i>2014 – 2019</i>

RELEVANT COURSEWORK

Computer graphics / deep learning / reinforcement learning / stochastic control and optimization / compiler and operating system

TECHNICAL SKILLS

Languages: Python, Java, C/C++

APIs: OpenGL, OptiX, VisRTX, Mitsuba2